

ABSTRACT

An implantable lead for electrical stimulation of tissue has wire-like extendable members whose tips curl back upon themselves in open tissue spaces to form 2- or 3-dimensional electrodes. The electrodes may be positioned axially or in other directions from the lead body. Traction on the lead body or extendable members allows easy withdrawal as the member tip electrodes uncurl, allowing removal without major surgery. This apparatus and method is useful for minimally invasive insertion of electrodes or electrode arrays, especially through a narrow body lumen or Tuohy needle, providing therapeutic stimulation of nervous tissue, muscle or organs.